Geriatric Emergencies

Demographic Imperative

- Since 1900, life expectancy has increased 43% for all ages
  - 1900: 50 years
  - 1988: 75 years
- Persons > 65 are fastest growing group in U.S.
  - 1900: 4% of population
  - 1980: 11% of population
  - 2030: 22% of population

Demographic Imperative

- More Americans now are over 65 than under 18
- Trend has led to increased incidence of chronic disease

The Elderly: A Profile

- Age
- Gender
- Race
- Education
- Geographic Distribution
- Living Arrangements
- Income/Assets/Poverty

Age

- Older population is becoming older
  - 65-74 age group: 8 times larger than in 1900
  - 75-84 age group: 13 times larger
  - 85+ age group: 24 times larger
- Persons over 85 are fastest growing population group

Gender

- Number of males per 100 females is decreasing
  - 50% of difference is genetic
  - 50% due to social role differences

Race

- 1989
  - 90% white
  - 8% black
  - 2% others

Education

- 54% have completed high school
- 11% have 4 or more years of college
- Persons over 65 are one of the best educated segments of the population

Geographic Distribution

- 52% live in nine states

California	Illinois
New York	Ohio
Florida	Michigan
Pennsylvania	New Jersey
Texas	

Living Arrangements

- 5% in nursing homes
  - 65-74: 1%
  - 75-84: 6%
  - >85: 22%

Income/Assets/Poverty

- Median net worth:
  - $60,300 *vs.* $32,000 for general population
- 3.4 million below poverty (11.4%)
- There is almost no elderly “middle class”

Health and Health Care

- Chronic illness is common
  - Arthritis 49%
  - Hypertension 37%
  - Impaired Hearing 32%
  - Heart Disease 30%
  - Cataracts 17%
  - Sinusitis 17%
  - Orthopedic 9%
  - Impaired Vision 9%
  - Diabetes 9%

Health and Health Care

- 1988
- Older adults at 12.5% of population accounted for
  - 33% of all hospital stays
  - 44% of all hospital days of care
  - 36% of total health care expenditures

Anatomy and Physiology of Aging

General Changes

- Total body water decreases
  - 61% at 25
  - <53% at 70
- Total body fat decreases
  - Subcutaneous fat deposits decrease
  - Fat deposits in organs increase

General Changes

- Generalized body tissue fibrosis
- Progressive loss of homeostatic systems ability to adjust

Specific Changes

- Height
- Weight
- Skin
- Musculoskeletal
- Respiratory System
- Cardiovascular System
- Renal System
- Nervous System

Height

- Decrease of 2 to 3 inches
  - Kyphosis (spinal curvature)
  - Spinal disk narrowing
  - Knee/hip joint flexion
  - Joint space narrowing

Weight

- Males
  - Increases to mid 50's, then decreases
- Females
  - Increases to mid 60's, then decreases

Skin

- Dermis thins by 20%; blood supply decreases
  - What effect on severity of burn injuries?
  - What effect on wound healing?
  - What effect on tolerance of cold?
- Sweat glands decrease; sweating decreases
  - What effect on tolerance of heat?

Musculoskeletal

- Decreased muscle weight relative to body weight
- Cartilage loses ability to adapt to repetitive stress
- Increased bone resorption; especially in females
- What effect in trauma?

Respiratory System

- Vital capacity decreases
- Maximum breathing capacity decreases 60%
- Maximum O_2 uptake decreases 70%

What effect on respiratory reserve capacity?

What effect in chest trauma?

What effect in acute respiratory disease?

Cardiovascular System

- Stroke volume declines
- Speed/force of myocardial contraction decreases
- Cardiac conducting system deteriorates
- What effect on myocardial reserve capacity?

Cardiovascular System

- Fibrosis occurs throughout blood vessels
- What effect on ability to control PVR?
- What effect on ability to regulate temperature?

Renal System

- 30 to 40% decrease in number of functioning nephrons
- 50% decrease in renal blood flow
- What effect on elimination of drugs?

Nervous System

- 6 to 7% brain weight decrease
- 45% brain cell loss in some areas
- 15 to 20% blood flow reduction
- 15% conduction speed decrease
  - What effect on pain sensation?

Incontinence

- Common problem
  - Urinary: 15% (home) to 50% (nursing home)
  - Fecal: 16 to 60% (nursing home)
- Can lead to rashes, skin infections, ulcer formation, UTIs, sepsis, falls, fractures
- Causes include anatomical changes, underlying disease processes, medications
- Respect patient's modesty and dignity

Problems with Elimination

- May indicate serious underlying illness
- Straining can lead to TIAs, syncope
- Consider drugs as possible cause
  - Opiates
  - Anticholinergics (antidepressants, antihistamines, muscle relaxants, antiparkinson drugs)
  - Cation containing agents (antacids, iron, calcium supplements
  - Anticonvulsants
  - Diuretics

Assessment of the Elderly

Complicating Factors

- Variability
- Response to illness
- Presence of multiple pathology
- Altered illness/injury presentation
- Communication problems
- Polypharmacy

Variability

- Elderly are more heterogeneous than younger people

Response to Illness

- Seek assistance for only small part of symptoms
- Perceive important symptoms as “getting old”
- Delay seeking treatment
- Trivialize chief complaints

Multiple Pathology

- Of patients >65:
  - 85% have one chronic disease
  - 30% have ≥3 chronic diseases

Multiple Pathology

- One system's acute illness may put stress on another's reserve capacity
- Symptoms of one disease process may mask another disease
- Treatment of one disease process may mask another

Altered Presentations

- Pain diminished, absent
- Temperature regulation depressed
  - What effect on environmental illness?
  - What effect on fever in infection?
- Depressed thirst mechanisms
  - What effect on hydration status?

Altered Presentations

- Increased susceptibility to
  - Confusion
  - Restlessness
  - Hallucinations
- Increased susceptibility to generalized deterioration

Altered Presentations

- Vague, poorly defined chief complaints
- "The organs of the aged do not cry"

Communication Problems

- Diminished
  - Sight
  - Hearing
  - Mental faculties
- Depression
- Poor cooperation/limited mobility

Polypharmacy

- 30% of geriatric hospitalizations are drug induced

History Taking

- Probe for significant complaints/ symptoms
  - Chief complaint may be trivial/non-specific
  - Patient may not volunteer information

History Taking

- Dealing with communication difficulties
  - Talk to patient first
  - If possible, talk to patient alone
  - Formal, respectful approach
  - Stay near middle of field of vision

History Taking

- Dealing with communication difficulties
  - Light sources behind patient
  - Face patient
  - Reduce background noise
  - Speak slowly
  - Enunciate clearly

History Taking

- Dealing with communication difficulties
  - Do not assume deafness
  - Do not shout
  - Do not assume confusion, disorientation = “senility”

History Taking

- Obtain thorough medication history
  - More than one MD
  - More than one pharmacy
  - Multiple medications
  - Old *vs* current medications
  - Shared medications
  - Over the counter medications

Physical Examination

- Consider cold sensitivity; examine in warm area
- May fatigue easily
- May have difficulty with positioning
- Consider modesty
- Decreased pain sensation requires thorough exam

Physical Examination

If they say something hurts, evaluate carefully!

Physical Examination

- Misleading findings
  - Inelastic skin mimics decreased turgor; Assess over cheeks
  - Mouth breathing mimics dehydration
  - Pedal edema from inactivity, dependent positioning of feet
  - Non-pathological rales in lung bases
  - Peripheral pulses difficult to feel

Specific Problems

Respiratory Distress

- Emphysema
- Chronic Bronchitis
- Asthma
- Pulmonary Embolism
- Pneumonia
- Acute MI
- Congestive Heart Failure
- Pulmonary Edema

Respiratory Distress

- Pneumonia
  - Fourth leading cause of death
  - 50x more common in nursing home pts
  - May have atypical presentation
    - Cough, fever may be absent
    - Possibly abdominal pain rather than chest pain

Respiratory Distress

- COPD
  - Fifth leading cause of death in males from age 55 to 74
  - Consider possible spontaneous pneumothorax in COPD patient who suddenly decompensates

Respiratory Distress

- Pulmonary Embolism
  - Sudden dyspnea + decreased mobility + no other quickly identified causes = ? pulmonary embolism

Respiratory Distress

- Dyspnea may be primary symptom of silent MI

Respiratory Distress

- Lung Cancer
  - U.S. has highest incidence in world
  - 65% of cases occur in people >65
  - Dyspnea, hemoptysis, chronic cough, weight loss

Cardiovascular Disease

- Acute Myocardial Infarction
  - Silent MI much more common in elderly
  - May present:
    - as dyspnea from CHF
    - with signs/symptoms of acute abdomen, including tenderness and rigidity

Cardiovascular Disease

- Silent acute myocardial infarction
  - Weakness
  - Fatigue
  - Syncope
  - Incontinence
  - Transient ischemic attacks/stroke
  - Confusion

Cardiovascular Disease

- Congestive Heart Failure
  - Most common diagnosis in hospitalized patients >65
  - Signs and Symptoms
    - Nocturia
    - Paroxysmal nocturnal confusion
    - Large blisters on legs, especially if patient sleeps sitting up

Cardiovascular Disease

Congestive Heart Failure

Bed-ridden patients may have fluid accumulations over sacral area rather than in feet, legs

Cardiovascular Disease

- Dysrhythmias
  - Extreme rates not tolerated as well; may lead to CHF, TIAs
  - Sudden onset = ? silent MI
  - Consider hypokalemia, hypomagnesemia, especially in patients on diuretics

Cardiovascular Disease

- Dysrhythmias
  - Consider drug toxicity
    - Digitalis
    - Beta blockers
    - Calcium channel blockers
    - Antiarrhythmics (proarrhythmic effects)

Cardiovascular Disease

- Aortic Dissection/Aneurysm
  - Thoracic: Tearing chest pain, often associated with neurological S/S; asymmetry of upper extremity pulses, BPs
  - Abdominal: Tearing abdominal pain; pulsating mass; unexplained low back pain; lower extremity weakness, numbness, pallor, coolness; diminished lower extremity pulses

Cardiovascular Disease

- Hypertension
  - Present in 50% of persons >65
  - Asymptomatic or associated with non-specific symptoms
  - Anti-hypertensive medications may mask or complicate coexisting diseases

Neurological Disorders

Syncope

- Altered mental status caused by transient interruption or decrease in cerebral blood flow
- Morbidity/mortality higher than in younger people

Syncope

- Cardiogenic
  - Silent MI
  - Stokes-Adams attack
  - Tachyarrhythmias
  - Bradyarrhythmias
  - Sick sinus syndrome
  - Beta blocking agents

Syncope

- Transient ischemic attack
- Seizure disorders
- Vasomotor depression
  - Diabetic neuropathy
  - Antihypertensive agents
    - Vasodilators
    - Diuretics

Syncope

- Consider volume depletion
  - Depressed thirst/inadequate fluid intake
  - Occult bleeding

Cerebrovascular Accident

- Emboli/thrombi more common
  - Atherosclerosis
  - Hypertension
  - Immobility/limb paralysis
  - CHF
  - Chronic A-fib

Cerebrovascular Accident

- Signs may be subtle:
  - Dizziness
  - Behavior change
  - Altered affect
  - Headache, especially if localized
- Suspect CVA in any older person with altered mental status

Cerebrovascular Accident

- TIA's common
  - Frequent cause of syncope
  - One third will progress to CVA

Cerebrovascular Accident

- Cardiogenic mechanisms may cause TIAs/CVAs
- Monitor EKG in all patients with neurologic symptoms

Cerebrovascular Accident

- Symptoms may be due to intracranial bleeds from head trauma
- Onset may be delayed

Seizures

- All first time seizures in geriatric population are danger sign

Seizures

- Possible causes
  - CVA
  - Syncope (transient hypoperfusion)
  - Transient arrhythmias
  - Alcohol or drug withdrawal
  - Tumors
  - Head trauma (onset may be delayed)
  - Hypoglycemia

Parkinson's Disease

- Fourth most common degenerative disease in elderly
- Affects basal ganglia of brain
- Primary vs. secondary types
- Pill-rolling tremors; muscle rigidity; shuffling gait; mask-like facial expression; slow, monotone voice; anxiety; depression

Dementia and Delirium

- 15% of elderly have some degree of dementia or delirium
  - Dementia
    - Structural origin
    - Chronic
    - Slowly progressive
    - Irreversible
    - Impairs memory
    - Global cognitive deficits
  - Delirium
    - Metabolic origin
    - Rapid onset
    - Fluctuating course
    - Reversible
    - Impairs attention
    - Focal cognitive deficits

Dementia and Delirium

- Distinguish between acute delirium and chronic dementia
- Never assume acute events are due to “senility”

Dementia and Delirium

- Possible causes of delirium
  - Head injury with subdural hematoma
  - Postconcussion syndrome
  - Tumor
  - Alcohol or drug intoxication/ withdrawal
  - CNS Infections
  - Fever
  - CHF
  - Hypoglycemia
  - Endocrinopathies
  - Electrolyte imbalances
  - Hypoxia
  - Drug interactions

Dementia and Delirium

- Alzheimer's Disease
  - Most common cause of dementia in elderly
  - Early stage: Loss of recent memory, inability to learn, mood swings, personality changes, aggression, hostility, poor judgment
  - Intermediate stage: Complete inability to learn, wandering, increased falls, loss of self-care ability
  - Terminal stage: Inability to walk, loss of bowel/bladder control, loss of ability to eat/swallow

Endocrine Disorders

Diabetes Mellitus

- 20% of elderly have diabetes (primarily Type II)
- 40% have glucose intolerance
- Produces increased risk of atherosclerosis, peripheral vascular disease, delayed healing, blindness, renal failure

Thyroid Disorders

- 2 to 5% of elderly develop hypothyroidism
- <33% present with typical signs/symptoms
- Common complaints include anorexia, confusion, falls, incontinence, decreased mobility, muscle and joint pain

Thyroid Disorders

- Hyperthyroidism is uncommon in elderly
- May result from thyroid hormone OD
- Common complaints include heat intolerance, atrial fibrillation, weight loss, apathy, abdominal pain, diarrhea, exhaustion, depression

GI Disorders

GI Disorders

- Abdominal pain frequently indicates surgical emergency
- May present only with:
  - Altered mental status, or
  - Unexplained signs of shock

GI Disorders

- Other pathology may mimic acute abdomen
  - Acute MI
  - Pneumonia
  - Genitourinary/retroperitoneal disease
  - Metabolic disease

GI Disorders

- Most common problem is GI hemorrhage

GI Disorders

- Common GI bleed causes include:
  - Peptic ulcer
  - Gastritis
  - Esophageal varices
  - Mallory-Weiss syndrome
  - NSAID abuse
  - Diverticulosis
  - Tumors
  - Ischemic colitis
  - Arteriovenous malformations

GI Disorders

- GI Bleeding Signs
  - Coffee ground emesis
  - Dark or bloody stool
  - Orthostatic hypotension
  - Confusion
  - Increase in angina symptoms
  - Weakness
  - Dyspnea
- Beta blockers may mask signs/symptoms of GI bleeds!

GI Disorders

- Bowel Obstruction
  - Typically involves small bowel
  - Causes: tumors, surgery, medications, vertebral fractures
  - Diffuse pain, distension, nausea, vomiting, decreased bowel sounds, fever, weakness, shock

GI Disorders

- Mesenteric/Bowel Infarct
  - Risk factors: atherosclerosis, A-fib
  - Bloody diarrhea, tachycardia, abdominal distension
  - Pain out of proportion to physical exam findings
  - Hypotension, peritonitis, sepsis

Skin Disorders

Skin Diseases

- Pruritis (itching) is common complaint
  - May be caused by dermatitis or drying
  - May indicate underlying liver or kidney disease
- Slower healing increases infection risk
- Incidence of fungal infections, herpes zoster increases

Skin Diseases

- Skin disorders may be medication related
  - Beta blockers worsen psoriasis
  - Antibiotics may cause skin eruptions
  - Topical “home remedies” may cause skin disorders
  - Antihistamines, corticosteroids 2 to 3x more likely to provoke adverse reactions

Decubitus Ulcers

- Occur in up to 25% of nursing home patients
- Mostly in people over 70
- Typically below waist, over bony prominences, in bedridden patients

Decubitus Ulcers

- Risk factors
  - Pressure
  - Altered sensation
  - Tissue maceration
  - Decreased activity, mobility
  - Poor nutrition
  - Friction or shearing forces
- Management
  - Frequent position changes
  - Use of draw sheets
  - Padding of skin before movement
  - Clean, dry areas of excessive moisture
  - Clean ulcers with saline, cover with hydrocolloid or hydrogel dressings
  - Loosely pack severe ulcers with loosely woven, saline moistened gauze

Musculoskeletal Disorders

Osteoarthritis

- Leading cause of disability in elderly
- Joint pain, worsened by movement
- Diminished mobility, joint deformity, crepitus, tenderness
- Immobility can worsen condition
- Management includes physical therapy, anti-inflammatory drugs, analgesics, surgery

Osteoporosis

- Affects ~20 million Americans
- Accounts for wrist, hip, spinal fractures following falls

Osteoporosis

- Age >50
- Female gender
- Early menopause (<45)
- No estrogen replacement
- Caucasian or Asian
- Low body weight
- Family history
- Late menarche
- Nulliparity
- Use of alcohol, caffeine, cigarettes

Environmental Emergencies

Elderly tolerate temperature extremes poorly

Environmental Emergencies

- Predisposing Factors
  - Poor cardiovascular function
  - Poor nutrition
  - Endocrinopathies, especially thyroid disease
  - Chronic illness, debilitation
  - Drug effects
    - Diuretics
    - Antipsychotics
  - Low, fixed incomes

Environmental Emergencies

High index of suspicion in any patient with altered LOC or vague clinical presentation in hot or cool environment

Toxicology/Pharmacology

- 25% of prescription drug use is by people >65
- By 2030 this will increase to 40%

Toxicology/Pharmacology

- Generally more sensitive to drug effects
- Changes in body mass and fat alter drug distribution
  - Fat soluble drugs distribute more widely
  - Water soluble drugs distribute less widely
- Liver size, blood flow decrease
- Renal filtration rate, tubular function decrease

Toxicology/Pharmacology

- Causes of drug related illness
  - Forgetful/confused/does not understand drug
  - Compliant, but prescribed dose excessive
  - Receives meds from more than one source
  - Resumes use of old meds
  - Uses meds intended for others

Toxicology/Pharmacology

- Causes of drug related illness
  - Does not mention non-prescription drugs
  - Drug abuse (signs/symptoms are from withdrawal)
  - Ran out of meds or reduced dose for financial reasons
  - Added a drug that impairs or exaggerates effects of drugs already in use
  - Changed smoking, alcohol, or dietary habits

Lidocaine

- Decreased hepatic metabolism causes toxicity
- CNS-related signs, symptoms
  - Numbness, tingling
  - Drowsiness
  - Depression
  - Muscle twitching
  - Seizures

Beta-Blockers

- Can produce depression, lethargy
- Can produce bronchospasm in patients with asthma/COPD
- May cause decreased ventricular contractility, worsening heart failure
- May mask early signs of hypovolemic shock

Diuretics

- Volume depletion
  - Postural hypotension
  - Circulatory collapse
- Hypokalemia
  - Arrhythmias
  - Enhanced digitalis effect

ACE Inhibitors

- Cause vasodilation, diuresis
- Can produce
  - Hypovolemia
  - Hypotension
  - Electrolyte imbalances
  - Nausea, vomiting, headache, fatigue

Digitalis

- 40-60% of patients become toxic
- Usually caused by decreased volume of distribution and clearance
- Digitalis toxicity may result from diuretic-induced hypokalemia

Antidepressants

- Sedation, confusion, lethargy, muscle weakness
- Dry mouth, constipation, urinary retention, confusion
- TCAs may cause orthostatic hypotension

Lithium Carbonate

- Excreted entirely by kidneys
- Decreased renal function can cause toxicity
- Metallic taste in mouth, hand tremors, nausea, muscle weakness, fatigue, blurred vision, lack of coordination, coma

Antipsychotics

- Sedation, anticholinergic effects
- Extrapyramidal reactions

Sedative/Hypnotic Drugs

- Increased sensitivity to sedation
- Increased risks of falls/hip fractures

Anti-Parkinsonian Drugs

- Sinemet, Parlodel, Cogentin, Symmetrel
- Dyskinesia, hallucinations, nightmares
- Orthostatic hypotension
- Tsmar in combination with Sinemet can produce liver damage

Anti-Seizure Medications

- Side effects include sedation, GI distress, lack of coordination, dizziness, dermatologic reactions

Aspirin, NSAIDS

- Gastrointestinal bleeding
- Higher doses can cause renal/hepatic toxicity
- Aspirin toxicity can cause confusion, tinnitus

Corticosteroids

- Side effects include
  - Hypertension
  - Peptic ulcer
  - Aggravation of diabetes mellitus
  - Glaucoma
  - Increased risk of infection
  - Addison's disease secondary to suppression of endogenous corticosteroid production

Theophylline

- Smoking speeds theophylline metabolism
- Physicians compensate by increasing maintenance doses
- Patients who stop smoking may become toxic

Drug/Disease Interactions

- Glaucoma + Atropine → Acute Glaucoma
- CHF + Beta blockers → Decompensated CHF
- COPD + Beta blockers → Bronchospasm
- COPD + Opiates → Respiratory failure

Drug/Disease Interactions

- Hypokalemia + Digitalis ⟶ Arrhythmias
- Peptic Ulcer Disease + NSAIDS ⟶ GI bleed
- Peptic Ulcer Disease + Anticoagulants ⟶ GI Bleed

Drug/Disease Interactions

- Prostate Enlargement + Atropine ⟶ Urinary retention
- Conduction disorders + Tricyclics ⟶ AV Block

Psychiatric Disorders

Depression

- Common in elderly
- May account for symptoms attributed to “senility”
- Should be considered immediate life threat
- Persons over 65 account for 25% of all suicides

Alcoholism

- Much more common than generally suspected
- Onset may be due to bereavement
- May account for deterioration in grooming, unexplained falls, unexplained GI bleeds
- Withdrawal may account for seizures

Neuropsychiatric Problems

- Illness in elderly may precipitate acute episodes of dementia, confusion
- Emotional disorders due to isolation, loneliness, loss of self-dependence, loss of strength, fear of the future may present as physical disorders

Trauma

Trauma

- Increased risk of injury
  - Slow reaction times
  - Diminished vision, hearing
  - Falls
  - Criminal acts

Head Injury

- Common, even with minor trauma
- Increased ICP signs develop slowly
- Patient may have forgotten injury

Cervical Injury

- Osteoporosis
  - Increased injury risk with trivial accidents
- Arthritic changes
  - Narrow spinal canal
  - Increased injury risk

Cervical Injury

- Sudden movement may cause cord injury without fracture
- Decreased pain sensation may mask pain of fracture

Chest Trauma

- Aging decreases chest movement, vital capacity, respiratory reserve capacity
- Organs have less anoxia tolerance
- Nitrous oxide may have greater depressant effect

Chest Trauma

COPD may be present

- Positive pressure ventilation may cause pneumothorax
- Hypoperfusion may cause severe tissue hypoxia

Trauma

- Cardiovascular System
  - Decreased compensation for hypovolemia
    - Move to decompensated or irreversible shock very rapidly
    - Tolerate hypoperfusion poorly, even for short periods
    - Hypoperfusion may lead to CVA, MI, bowel infarcts, renal failure, adult respiratory distress syndrome

Trauma

- Cardiovascular System
  - May be hypoperfused at “normotensive” pressures
  - Chronic beta blocker therapy may mask signs of shock
  - Decreased myocardial reserve may lead to difficulty with fluid resuscitation

Trauma

- Renal System
  - Decreased kidney function may result in fluid overload

Trauma

- Orthopedics
  - 33% of falls cause at least one fracture
  - Most common are hip or pelvis
  - Think about underlying medical causes
  - Positioning/packaging may have to be modified to accommodate physical deformities

Trauma

- Burns
  - Higher mortality than any group except infants
    - Preexisting disease
    - Thin skin
    - Poor immune response
    - Reduction in organ system reserve
    - Inability to meet metabolic demands of burn injury
  - Increased risk of shock
  - Fluid administration critical to prevent renal failure

Geriatric Abuse/Neglect

- Physical or psychological injury of older person by their children or care providers
- Knows no socioeconomic bounds

Geriatric Abuse/Neglect

–Patient

- Older (average age mid-80s)
- Multiple chronic diseases
- Unable to be totally independent
- Often has sleep pattern disruption leading to nocturnal shouting or wandering

Geriatric Abuse/Neglect

- Family has difficulty upholding commitment to care
- Other causes of stress present
  - Financial difficulties
  - Marital discord
  - Work related problems

Geriatric Abuse/Neglect

- Primary findings
  - Trauma inconsistent with history
  - History that changes with multiple tellings
- Management
  - Do NOT confront family
  - Report suspicions to ER physician, law enforcement
  - Reporting is mandatory